himself more thoroughly and accurately as to the internal anatomy of these insects may consult with profit some of the treatises which are mentioned in the list of works dealing with the subject which is given elsewhere in this book.

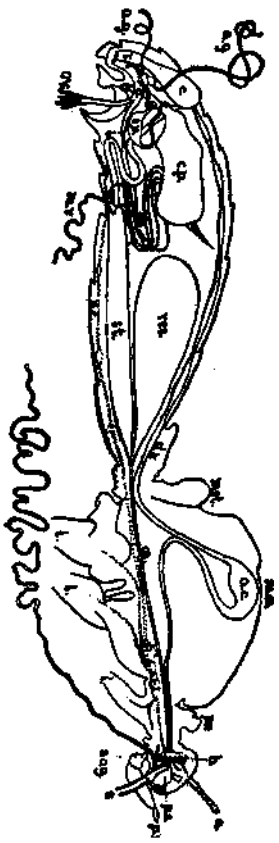

FIG. 42.—Longitudinal section through the imago of *Anosia plexippus*, ♀, to show the internal anatomy: *l*, tongue; *p*, palpus; *a*, antenna; *pr*, prothorax; *ms*, mesothorax; *mt*, metathorax; *ps*, pharyngeal sac; *b*, brain; *sog*, subœsophageal ganglion; 1–2, blended first and second ganglia of the larva; 3–4, blended third and fourth ganglia of the larva; *1*, *2*, *3*, the three legs; *ac*, aortal chamber; *dv*, dorsal vessel; *œ*, œsophagus; *res*, reservoir for air or food; *st*, stomach; *mv*, Malpighian vessels; *i*, intestine; *c*, colon; *r*, rectum; *cp*, copulatory pouch; *o*, oviduct; *ag*, accessory glands; *sp*, spermatheca; *ov*, ovaries (not fully developed); *ns*, nervous cord. (Magnified 3 diameters.) (Burgess.)

Polymorphism and Dimorphism.—Species of butterflies often show great differences in the different broods which appear. The brood which emerges in the springtime from the chrysalis, which has passed the winter under the snows, may differ very strikingly from the insect which appears in the second or summer brood; and the insects of the third or fall brood may differ again from either the spring or the summer brood. The careful student notes these differences. Such species are called polymorphic, that is, appearing under different forms. Some species reveal a singular difference between the sexes, and there may be two forms of the same sex in the same species. This is most common in the case of the female butterfly, and where there are two forms of the female or the male such a species is said to have dimorphic females or males. This phenomenon is revealed in the case of the well-known Turnus Butterfly; in the colder

regions of the continent the females are yellow banded with black, like the males, but in more southern portions of the continent black females are quite common, and these dark females were once